EUROFOODCHEM XVIII

OCTOBER 13-16, 2015

MADRID, SPAIN

UPCOMING CHALLENGES IN FOOD SCIENCE




www.eurofoodchemxviiimadrid2015.com

Institute of Food Science, Technology and Nutrition (ICTAN-CSIC)

European Association for Chemical and Molecular Sciences (EuCheMS)

EuCheMS European Chemical Sciences Division of Food Chemistry

75 AÑOS CSIC Consejo Superior de Investigaciones Científicas

ICTAN

EXPLOITATION OF AGRI-FOOD CO-PRODUCTS

EXP-P-228 AUTOHYDROLYSIS OF HAZELNUT SHELL FOR XYLOOLIGOSACCHARIDE PRODUCTION
Ece Surek; Ali Oguz Buyukkileci

EXP-P-229 EXPLOITATION OF THE ANTIOXIDANT ACTIVITY OF FRUIT BYPRODUCTS
Nataly Maria Viva de Toledo; Jéssica Mondoni; Patrícia Bachiega; Solange Guidolin Canniatti-Brazaca

EXP-P-230 DEVELOPMENT AND CHEMICAL CHARACTERIZATION OF NEW ORANGE VINEGAR
Enrique Durán-Guerrero; Cristina Cejudo-Bastante; Remedios Castro-Mejías; Ramón Natera-Marín; Carmelo García-Barroso

EXP-P-231 MATRICARIA RECUTITA L. (CHAMOMILE) AS NATURAL PRESERVER INCORPORATED IN COTTAGE CHEESE
Cristina Caleja; Lillian Barros; Amilcar L. Antonio; Ana Ciric; Marina Sokovic; M. Beatriz P.P. Oliveira; Celestino Santos-Buelga; Isabel C.F.R. Ferreira.

EXP-P-232 FRAGARIA VESCA L. FRUITS AS SOURCES OF HIGH VALUABLE BIOACTIVE MOLECULES
Cristina Caleja; Maria Inês Dias; Lillian Barrosa; M. Beatriz P.P. Oliveira; Patricia Morales; María Cortes Sánchez-Mata; Isabel C.F.R. Ferreira

EXP-P-233 USE OF OLIVE SOLUTIONS FOR AGRICULTURAL PURPOSES: THEIR CHEMICAL CHARACTERISTICS
Concepción Romero; Pedro García; Antonio de Castro; Eva Ramírez; Alejandra Expósito; Manuel Brenes

EXP-P-234 CHARACTERIZATION OF CELIAC DISEASE– RELATED PEPTIDES–PROCYANIDIN B3 COMPLEXES BY ESI–MS
Maria Rosa Perez-Gregorio; Ricardo Dias; Nuno Mateus; Victor de Freitas

EXP-P-235 DETERMINING THE CHARACTERISTICS OF PROTEIN FROM CRICKET (GRYLLUS BIMACULATUS) USING COMMERCIALLY AVAILABLE PROTEASE
Jeong-Ho Lim; Hye-Jung Yang; Eun-Mi Kim

EXP-P-236 GARLIC BY–PRODUCTS AS A HIGHLY VALUED SOURCE OF BIOACTIVE COMPOUNDS
Isabel Borrás-Linares; Jesús Lozano-Sánchez; David Quintin; Presentación García Gomez; Antonio Segura-Carretero

MATRICARIA RECUTITA L. (CHAMOMILE) AS NATURAL PRESERVER INCORPORATED IN COTTAGE CHEESE

Cristina Caleja[1,2], Lillian Barros[1], Amilcar L. Antonio[1], Ana Ciric[3], Marina Sokovic[3], M. Beatriz P.P. Oliveira[2], Celestino Santos-Buelga[4], Isabel C.F.R. Ferreira[1],*

[1]Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Portugal.
[2]REQUIMTE/LAQV, Faculty of Pharmacy, University of Porto, Portugal.
[3]University of Belgrade, Institute for Biological Research "Siniša Stanković", Belgrade, Serbia. [4]GIP-USAL, Faculty of Pharmacy, University of Salamanca, Spain.

Presenting author: ccaleja@ipb.pt

Keywords: Natural preservers; Matricaria recutita L.; Cottage chesse

Introduction
Novel functional foods with health promoting natural ingredients instead of synthetic additives have been intensively developed and commercialized by food industry [1].

Objectives, Material and Methods
In the present work, it was demonstrated the antioxidant (free radicals scavenging activity, reducing power and lipid peroxidation inhibition) and antimicrobial (against bacteria such as Staphylococcus aureus, Bacillus cereus and Salmonella typhimurium, and fungi such as Penicillium funiculosum, Aspergillus versicolor and Trichoderma viride) potential of Matricaria recutita L. (chamomile) extracts obtained by decoction.

Results
Di-caffeoyl-2,7-anhydro-3-deoxy-2-octulopyranosonic acid and luteolin-O-glucuronide were identified as the main phenolic compounds present in the extract.
The extract was incorporated (at EC25 value≡0.165 mg/mL, previously determined by DPPH assay) to a cottage cheese (prepared by Queijos Casa Matias Lda.) with the aim of increasing its shelf life.

Conclusions
The results showed that the use of this natural extract did not alter significantly the nutritional characteristics of the cottage cheese, but improved its antioxidant potential. After 14 days of storage, only the control samples prepared without extract addition showed signs of degradation, which demonstrates the preservation potential of chamomile.

References:
[1] Carocho M. et al. Comp. Rev. Food Sci. Food Safety 2014. 13, 377-399.

Acknowledgments: The authors are grateful to Américo Duarte Paixão Lda. for the providing of chamomile samples, to project PRODER No. 46577- PlantLact for financial support of the work and to the Foundation for Science and Technology (FCT, Portugal) for C. Caleja PhD grant (SFRH/BD/93007/2013) and L. Barros research contract.